

## ABSTRACT

The method and the apparatus for processing and forwarding data packets (pkt) in a computer network comprise  
5 at least one route table that contains entries each having an input index field (s-in), an operation code or a program (op) for the execution of an operation and an output selector field (s-out). The data packets (pkt) to be processed are each assigned a selector (sel) serving as indexing datum, the  
10 data packet (pkt) and the selector (sel) together constituting a token. The selector (sel) of a packet is matched with the input index field (s-in) of the entries of said at least one route table and the operation (op) contained in the matched route table entry or route table  
15 entries is/are executed on the matched token. This processing step can be repeated if the operation (op) results in one or more output token/tokens. Since according to the invention, programs to be executed on data packets (pkt) are stored in the route table, data packets (pkt) are directly processed in  
20 the fast data path, while at the same time the router can be dynamically reprogrammed.

(Fig. 5)